

WHAT IS CLAIMED IS:

1. A communications network comprising:

at least one source unit configured to generate messages for relay;

5 a smart node capable of storing programming instructions, receiving messages for relay from said source unit, dynamically reprioritizing the received messages for relay, and transmitting the reprioritized received messages; and

10 at least one portal node adapted to receive said reprioritized received messages transmitted from said smart node.

15 2. The communications network as specified in claim 1 wherein said smart node comprises an electronic computer for executing said programming instructions.

20 3. The communications network of claim 1 wherein said programming instructions comprise active messages.

4. A communications network comprising:

at least one source unit configured to generate messages for relay;

15 a smart node capable of receiving programming instructions, storing said programming instructions, receiving messages for relay from said source unit, storing the received messages for relay in a queue, and dynamically reprioritizing the received messages for relay in said queue;

20 at least one portal node adapted to receive said retransmitted received messages from said at least one smart node for relay; and

at least one communications node adapted to send said programming instructions to said smart node.

5. The communications network of claim 1 wherein said smart network comprises:

a message storage queue;

a transmitter;

5 a receiver;

a queue controller for writing messages received at said smart node into said message storage queue and for removing messages from said message storage queue for relay transmission by said transmitter; and

10 a dynamic reprioritization controller for specifying an order of transmission of said messages for relay transmission by said transmitter.

6. The communications network of claim 5 including at least one receiver for receiving said messages for relay from said source unit.

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